Development of a School-Based Drug Abuse Prevention Curriculum for High-Risk Youths†

Steve Sussman, Ph.D.*

Abstract—This paper presents the rationale for and description of the empirical curriculum development process in Project Towards No Drug Abuse (Project TND), which is a five-year grant funded by the National Institute on Drug Abuse. First, the target population is described, continuation high-school youths who are at high risk for drug abuse. The rationale for developing a classroom-based curriculum tailored for them is also provided. Second, a brief description is provided of state-of-the-art generic social influences drug abuse prevention programming, which has been found to be the most effective among young adolescents. There is a need to consider other prevention activities, particularly those that include motivational variables, to maximize prevention efforts among higher-risk youths. Third, five types of curriculum development studies are discussed that led to a curriculum that is being implemented with continuation high-school students at schools in five counties in southern California. Finally, the contents of the final curriculum product is provided, which consists of motivation, skills-training, and decision-making components.

Keywords—curriculum development, drug abuse, high-risk youths, prevention

†This research was supported by grant DA07601 from the National Institute on Drug Abuse.
*Institute for Health Promotion and Disease Prevention Research and Department of Preventive Medicine, University of Southern California.

Drug abuse may be defined as the accumulation of negative consequences resulting from drug use (Allison, Leone & Spero 1990; Newcomb & Bentler 1989). Numerous consequences befall those teenage youths who abuse drugs, including overdoses and accidents, early involvement in family creation and divorce, crimes such as stealing and violence, relatively less educational attainment, relatively less skilled employment with lower job stability, development of disorganized thinking and unusual beliefs that may interfere with problem-solving abilities and emotional functioning, relatively less adaptive coping, and relatively greater social isolation and depression (Newcomb & Bentler 1988).
Still, most youths who use drugs do not abuse them later on (Newcomb & Bentler 1989). Perhaps prevention programs focused on those youths at high risk for drug abuse would provide a maximal social payoff. For example, it may be more cost-effective to target youths who are most likely to abuse drugs in the future than to target much larger numbers of youths, many of whom will not abuse drugs (c.f., Pentz 1994). Even if this argument is not valid, selection of naturally occurring high-risk target groups for drug abuse prevention efforts deserves ongoing consideration, rather than viewing these youths as beyond help. Thus, it is not surprising that one of the most difficult but important tasks in the minds of many drug abuse prevention researchers and practitioners is to treat youths at highest risk for future drug abuse (Eggert et al. 1994; Resnik & Wojcicki 1991; Newcomb & Bentler 1989).

PROGRAMMING FOR CONTINUATION HIGH-SCHOOL YOUTHS

As a point of clarification, applicability of substance abuse prevention programming to higher-risk populations is contingent on how “high risk” is defined (Sussman et al. 1996). This term could refer, for example, to a disadvantaged socioeconomic group (within which drug use or distribution traditionally has been more prevalent), risk-takers, youths at risk of dropping out of school, and targets of some drug promotions (e.g., of cigarettes and alcohol) (Eggert et al. 1994; Hawkins, Catalano & Miller 1992; Johnson et al. 1990). One widely shared perspective of risk, particularly easy to conceptualize and operationalize in terms of social influence theory, is defined as “the percentage of users within a social environment” (Johnson et al. 1990). For example, the greater the number of drug users within a large (e.g., school, community) or small (e.g., peer group) social environment, the more at risk are its constituents for continued drug use leading to abuse. Using schools as the unit of study, schools differing in percentage of users at baseline reflect different levels of risk.

A main goal of Project Towards No Drug Abuse (Project TND) is to provide classroom-based programming to youths at continuation high schools, the alternative school system in California. Continuation high-school youths are at relatively high risk for substance abuse. When reaching high-school age, those youths who are unable to remain in the comprehensive school system for functional reasons, including substance use, are transferred to a continuation high school. Continuation high-school students report much higher levels of drug use than traditional high-school students (e.g., weekly use of marijuana is 36% versus 9%, respectively) (DeMoor et al. 1994; Newcomb et al. 1987; Sussman et al. 1995b). Continuation high schools as such do not cause youths to continue to use drugs. To the contrary, these specialized schools may provide the additional personal attention needed to help youths correct deficiencies in life skills, increase bonding with social institutions, and otherwise help them to surmount several risks for drug abuse (i.e., build resiliency) (Hawkins, Catalano & Miller 1992). However, continuation high-school students also are exposed on a daily basis to numerous other students who use drugs, and attitudes favorable to drug use are likely to be shaped and supported by other youths in such an environment. Effective substance abuse prevention programming for many of these students is imperative to help them channel back into mainstream society.

Rationale for Development of Classroom-Based Programming for Continuation High Schools

This paper summarizes the curriculum development process that was used to generate the classroom component of Project TND, which is a five-year grant funded by the National Institute on Drug Abuse. A classroom curriculum recently was delivered to 14 continuation high schools in southern California (1994–95 school year). A total of 21 schools were blocked and randomly assigned to one of three conditions: standard care, classroom-only, and classroom-plus-school-as-community. It is hypothesized that community involvement may help enhance school-based efforts in the prevention of nicotine or other drug abuse. However, the development of the school-as-community component is presented elsewhere (Sussman et al., In press-a).
This paper does not intend to minimize the importance of substance abuse prevention programming outside of the classroom. Nonschool prevention modalities have a rich and important history in substance abuse prevention research (Pentz 1994; Perry et al. 1990). Community programs often involve community leaders and organizations (e.g., coalitions, community boards—see Kaftarian & Hansen 1994; Goodman et al. 1993) that help mobilize and network numerous community units. Community units include businesses, the media, the family, and governmental agencies (such as police or recreational departments) as well as school systems.

A network of community units working together to develop, promote, and implement educational programming could increase youths’ bonding to others across a wide variety of social contexts (Pentz 1994; Hawkins, Catalano & Miller 1992). Community units can provide numerous types of specific extra-classroom prevention modalities (Pentz 1994). These prevention modalities include parent or family programs (e.g., early childhood education, social support for parents, parenting skills training), mass media programs (e.g., national campaigns, coordination with school or other community programs), and alternative means to involve youths at school (e.g., music, movie or hiking clubs). In addition, policy implementation and enforcement may contribute to other community prevention programming efforts (e.g., Pentz 1994; Pentz et al. 1989). Indeed, provision of simultaneous programming outside of schools, or provision of programming at schools over long periods of time, may be needed to maintain drug abuse prevention program effects, which are implemented during junior high school and tend to fade by the end of senior high school (Botvin et al. 1995; Pentz 1994; Ellickson, Bell & McGuigan 1993; Resnicow & Botvin 1993).

On the other hand, schools are the one context in which youths are a captive audience to provision of educational material. Also, youths spend 25% of their waking lives at school, so the impact of school on their behavior should not be underestimated. Furthermore, the school context provides a rich research history on which to build new studies, and the implementation and effectiveness of programming may be most easily assessed within a school system (Sussman et al. 1995a). For these reasons, development of substance abuse prevention programming for new school contexts has warranted continued consideration in the research literature.

High-school-based substance abuse prevention seldom has been attempted (Sussman et al. 1995a; Tobler 1986). Because more older than younger adolescents have tried various drugs, the proper emphasis of such programs may be placed more on secondary rather than on primary prevention. In addition, as youths enter high school, a qualitatively increased variety of social (groups, crowds, romantic dyads) and activity (jobs, independent time, clubs) demands present new behavioral options. Youths may now have more situational opportunities to experiment with drug use, and reasons for drug use may increase with the ever-increasing complexity of life. Appropriate classroom-based programming for high-school youths may, consequently, entail different curriculum contents than that which has been useful for young adolescents (e.g., Sussman et al. 1995a).

Effective programming for continuation high-school youths may require still quite different contents since these youths are in a peer social context that places them at relatively extreme risk for substance abuse. Possibly, long-term provision of a classroom-based curriculum will exert a greater preventive impact among them than will a program delivered over a period of a few weeks with relatively fewer lessons. For example, Boylan (1991) achieved a 50% reduction in use of all drugs except nicotine (cigarettes) at one continuation high school in Dinuba County, California, by delivering approximately one hour of substance abuse-oriented classroom programming per day for a full school year. However, such intensive delivery would be impractical at many schools.

It is important to utilize means to develop programming that is practical (i.e., likely to be implemented) and tailored for these youths (i.e., most likely to counteract their reasons for drug use). Comprehensive social influences-oriented school-based substance abuse prevention programming has been shown to reduce onset or elicit a 50% relative reduction in the use of cigarettes, alcohol, or marijuana in at least ten recent studies (Botvin 1993; Hansen 1992). Such programs generally have been provided to junior high-school youths. Program effects have been shown to last two to seven years, depending on the application of additional programming in senior high school (Resnicow & Botvin 1993). A multilesson senior high-school-based curriculum is superior to use of one to two lesson booster programming since many youths may not have received any programming when they were younger. In fact, few continuation high-school youths report having received school-based programming when they had been in junior high school.
Much effort has been expended over a two-year period to develop programming tailored for them. This paper summarizes this effort.

**Project TND Curriculum Development Studies**

In developing a workable curriculum for this school-based population it was necessary to learn about the adaptability or limitations of current generic social influences programming, which is known to be the most effective drug abuse prevention program at present (Botvin et al. 1995; Hansen 1992), and gain insight into what type of programming is relevant for this or other high-risk adolescent populations. The theoretical basis of social influences programming in its simplest form is that inoculation in the classroom against direct or indirect social pressure to use drugs will help prevent use when youths enter drug use situations (Sussman 1989).

**Social influence-oriented information** and skills training might help counteract a high-risk social milieu that instructs youths that using drugs is what same-aged peers do or should do (Salomon et al. 1984).

**The Social Influences Curriculum**. Generally, a social influences drug abuse prevention curriculum refers to a collection of instructional activities or lessons containing several thematic topic areas, typically five to 20 single-hour lessons, which can be integrated into a semester-long health education class (Sussman 1991; Glynn 1989). The social influences prevention curriculum is well-planned, sequentially developed, and includes a variety of classroom learning experiences. Social influence programs can be decomposed into three main divisions: basic information (which motivates involvement in the curriculum and presents information on physical consequences), normative social influence-oriented lessons (which counteract social pressure to achieve approval by using drugs), and informational social influence-oriented lessons (which counteract social pressure to share similar and favorable opinions about drug use). These main divisions can be broken down further to identify nine main components. These are components that introduce and involve the youths in the program and provide basic information—(1) listening/involvement, (2) physical consequences information instruction, and (3) decision making and public commitment; those that confront normative social influence-type pressures—(4) normative restructuring (e.g., taking a class poll regarding whether or not peers approve of drug use, and learning that most peers disapprove of use), (5) assertion refusal learning, and (6) assertion refusal practice (to refuse direct offers of drugs); and those that confront informational social influence-type pressures—(7) modification of drug use prevalence overestimates (e.g., by taking a class poll that compares self-reported use among classmates to estimates made about use among classmates; the latter tends to be much higher), (8) social awareness of adult and media influences that tend to unduly glamorize drug use, and (9) activism (e.g., letter writing to filmmakers requesting correct portrayals of drug use consequences). Each of these components is manifested in separate curriculum lessons. Thus, many social influence programs are nine to ten lessons in length and include most of these types of components as applied to different research questions (e.g., Sussman et al. 1995a; Hansen 1992; Hansen & Graham 1991; Glynn 1989; Pentz et al. 1989).

**Lack of Importance of Refusal Assertion Training.** The hallmark social influence activity, particularly in substance abuse prevention programs and campaigns of the 1970s and 1980s, such as the Just Say No Campaign (Hansen 1992), has been refusal assertion training, in which youths are instructed on how to say no to drug use offers. More recent work suggests that refusal assertion skills training is not of major importance among lower risk groups in the prevention of drug abuse, especially among those who have any intention to try drugs (e.g., Donaldson 1995; Sussman et al. 1995a; Donaldson, Graham & Hansen 1994; MacKinnon et al. 1991). Drug use prevalence overestimate reduction and perceived peer approval reduction are known to be mediators of drug abuse prevention program effects. In fact, when instructed without other activities, refusal assertion training may lead to higher estimates of the likelihood that a drug offer will be made in the future, and may increase prevalence estimates of use (Donaldson 1995; Donaldson, Graham & Hansen 1994).

**Will Generic Social Influences Programming Work with High-Risk Youths?** Drug abuse prevention researchers are not decisive regarding whether or not social influence prevention program effects differ as a function of risk of target group. Some researchers have not found effects of school-based (Hansen et al. 1988) or community programs (Johnson et al. 1990) to vary as a function of risk, and even favor those who are more disadvantaged in some instances (Graham et al. 1990). On the other hand, other researchers have suggested or have provided evidence that prevention programming could result in reactance effects (regarding cigarette smoking, as a function of behavioral risk but not socioeconomic risk) (Ellickson & Bell
Generic social influences programming could be effective among high-risk youths assuming that actual or perceived social influence processes still operate and serve as the primary antecedents of use (Sussman et al. 1995a). However, life difficulties, school context interference, and academic limitations, may make it especially difficult to engage high-risk youths in any programming. In addition, one may speculate that, in high-risk contexts, basic information lessons (such as physical consequences information instruction) may have relatively little meaning compared to the predominance of popular social images associated with use. Also, perhaps few would state a commitment not to use, presenting a weak impact against drug use on oneself and others in the class. Normative social influence lessons also may exert a weak impact. Among high-risk youths, perhaps few will state disapproval of drug use. Also, these youths may not want to learn refusal assertion training, which assumes that one refuses offers because one does not want to use drugs (Donaldson 1995). Finally, informational social influence lessons may exert a weak impact as well. A prevalence overestimates modification lesson may not be successful in a high-risk context if there are many users and, consequently, little overestimation of use. Also, it may be less likely in a high-risk environment that youths will take an active stance (to provide corrective social information), which requires acting on a difficult environment; they may feel less hopeful than others that they can act to change their social environment. More research is needed with higher-risk populations to better assess the potential applicability of social influences prevention programming.

Need to Consider Motivation. Various conferences (e.g., Johnson & Sussman 1994), monographs (e.g., Goplerud 1991; Bell & Battjes 1985; Jones & Battjes 1985; Glynn, Leukefeld & Ludford 1983; Lettieri, Sayers & Pearson 1980), meta-analyses or empirical reviews (e.g., Conrad, Flay & Hill 1992; Hansen 1992; Hawkins, Catalano & Miller 1992; Tobler 1986), and recent integrative theories (e.g., Petraitis, Flay & Miller 1995) present systematic presentations or integrations of diverse intrapersonal and extrapersonal reasons for drug use. While many of these theories encompass numerous attitudes and intentions toward drug use, in general, they do not consider the importance of motivation to learn new skills or to conform to more supportive contexts. Of primary importance, youths at higher risk for substance abuse need to be motivated to action for a successful preventive impact to occur.

According to theories of motivation (e.g., Emmons et al. 1995), there are two components of motivation that underlie youths’ decisions to engage or not engage in substance use. First, youths consider why they should not engage in substance use, and should engage in some other behavior (“the direction”). As suggested by Leventhal and Keeshan (1993), any self-regulative system must have a set point or goal, in addition to having the means to achieve this goal state. Further, as stated by Resnik and Wojcicki (1991), high-risk youths “... must be convinced that prevention programs offer a better way than the negative and self-destructive patterns of the past.” Youths may become motivated to change in a prosocial direction when they make explicit their future goals (if their future goals are consistent with a prosocial achievement orientation).

Second, youths consider how much effort they are willing to exert to avoid drug use (“the energy”) (Emmons et al. 1995; Sussman et al. 1993; Bindra & Stewart 1966). Perhaps, to understand the energy that youths would exert to not abuse drugs, one should consider “... the various routes perceived as available to attain those goals and satisfy those needs” (Leventhal & Keeshan 1993). More specifically, youths may become motivated to work to change when intrapersonal or extrapersonal obstacles are made explicit and they are instructed on how to surmount them.

Continuation high-school youths must want to cope differently; they need reasons to change behavior that they “own” within their belief systems, and goals that they might strive for. In addition, perceived obstacles to reaching those goals should be acknowledged and means to surmount those obstacles should be suggested. Project TND involved use of an empirical curriculum development process in which consumer demand is a primary criterion of lesson selection. Consumer demand considers the motivations and preferences of the consumer. By considering specific motivations of continuation high-school youths, perhaps optimal programming can be developed.

Empirical Curriculum Development

It is an important challenge in health education research to create a school-based substance abuse prevention curriculum development process that facilitates a precise evaluation of the workings of its
components. Often, evaluation occurs only after the whole curriculum is developed. Not using an empirically grounded curriculum development process is of concern because an “intuitive” approach may confound the experience and biases of the health education researcher and health educator (curriculum writer) with that of the student-consumer (see Sussman 1991). To strengthen the scientific foundation and practical utility of a multilesson prevention curriculum, an iterative development and evaluation approach is recommended.

Four general steps of curriculum development have been suggested in school-based prevention research (Sussman 1991). The first step involves adopting and extending a theoretical knowledge base, which includes adoption of a theoretical perspective and use of assessment studies to clarify relations among components of the theory. The second step is one of pooling curriculum activities from various sources or creating activities that might counteract acquisition variables identified in step one. The third step involves testing of individual lessons collected together in the earlier step, through assessment of perceived efficacy of numerous activities (theme studies and focus groups), and through assessment of immediate outcomes of an activity (component studies). The fourth and final step involves testing of a full curriculum, which involves combining lessons and assessing the workability and immediate impact of the full curriculum (feasibility and pilot studies).

There are several potential limitations of this empirical curriculum development process. When lessons are combined their effects may add or detract from each other. Such contrast effects cannot be examined when assessing a single activity or lesson, as is done in earlier steps of development. Alternatively, effects may be additive for most lessons; these possibilities simply need to be considered within the curriculum development research arena. Also, only perceived or immediate impact is assessed; the effects on substance use is not known until much later and usually are not assessed in curriculum development studies, themselves. Still, there is some indication that certain immediate impact variables do predict later behavior, such as changes in knowledge, attitudes, beliefs, and perceived quality ratings (Sussman, Petosa & Clarke 1996; Tobler 1995). Finally, there is the possibility that youths’ preferences may be in error, that they are not capable of selecting material that is helpful for them. However, the present author’s experience is that to the converse; youths are good consumers of their own health behavior, and their preferences translate into behavior change later on (e.g., Sussman, Petosa & Clarke 1996; Sussman et al. 1995a).

**SUMMARY OF PROJECT TND CURRICULUM STUDY RESULTS**

Several curriculum development studies have been completed with continuation high-school students. Table 1 summarizes these studies. First, an interview study elicited reasons for drug abuse, self-perceptions and aspirations (motivational variables), and potential lesson contents through interviews of randomly selected continuation high-school students (with corroborative reports from staff). The second study provided a comparison of the immediate impact of generic social influence lessons at continuation versus regular high schools on knowledge and belief change (“comparison evaluation study”). Three pretest-posttest, activity-specific, forced-choice items evaluated knowledge change for each lesson. Two pretest-posttest, activity-specific, agreement-disagreement-type rating scale items measured belief change.

The third study provided a comparison of the perceived efficacy of multiple lessons written as brief paragraphs (“theme study”), which permitted a comparison of the perceived efficacy of seven generic social influence-type lessons with numerous (i.e., 27) alternatives. A posttest-only perceived quality index consisted of five rating-scale items (interest, understandability, learning, helpfulness, and ability to meet stated goal of activity), which were standardized and averaged. The 16 lessons that received the most favorable perceived efficacy ratings were retained. The fourth study provided a comparison of the immediate impact of this subset of the lessons retained from the third study, and examined both health-educator-led and self-instruction versions of these lessons (“component study”). A posttest-only perceived quality index consisted of four rating-scale items (interest, likability, learning, and helpfulness), which were standardized and averaged. Finally, pilot work with use of a complete curriculum was accomplished with one iteration. The pilot study included likability ratings of each lesson, of the whole curriculum, and nine perceived quality adjective items (e.g., interest, helpfulness) that were standardized and averaged to form an index. This series of studies resulted in a nine lesson curriculum. More detail
regarding design and analysis is provided about these studies in Table 1 as well as in other sources (Dent et al., In press; Sussman et al., In press-b, 1995b, 1995c).

The following is a verbal summary of the results of the Project TND curriculum development studies. First, four general reasons for drug use (normative social influence, informational social influence, physiological reinforcement, and inadequate coping skills) and motivational variables relevant to continuation high-school youths are presented. Next, lessons that plausibly might counteract these stated reasons for drug use are presented. Project TND empirical curriculum development study results are presented as they address lessons that had been considered plausible, in theory, to counteract reasons for drug use.

### TABLE 1

**The Curriculum Development Process for the Classroom Component of Project Towards No Drug Abuse (TND)**

<table>
<thead>
<tr>
<th>Name of Study Interpretation</th>
<th>Completed Method</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interview programming (Sussman et al. 1995c) to these reasons for use. In awareness of social images with use and coping strategies instruction.</td>
<td>Fall 1992 Private interviews of 144 continuation high-school students and 96 continuation high-school staff randomly selected from 20 schools.</td>
<td>Numerous reasons for drug use were reported, including social influences, physiological reinforcement, and stress-coping. Refusal assertion training was not viewed as an important education strategy. Adaptive coping strategies need instruction.</td>
</tr>
<tr>
<td>Comparison Evaluation (Sussman et al. 1995-b) from continuation are less likely belief change single generic social lessons. Active in lessons belief change. information and social influence refusal assertion be useful to educational continuation youths;</td>
<td>Spring 1993 Pretest-posttest experimental design that randomly assigned classrooms of comprehensive (n=706 from six schools) and continuation (n=479 from six schools) high-school youths to a generic social influences lesson condition (doing an activity) or an activity process control condition (paragraphs read to students about each activity).</td>
<td>Active or control delivery conditions did not differ in knowledge gains, but the active delivery condition elicited more belief changes. Social influences programming elicited belief changes among comprehensive lessons, not major training, may retain as educational strategies for high-school youths.</td>
</tr>
</tbody>
</table>
listening skills.

Theme: Social Influences (Dent et al., In press) probably relevant for prevention among high-school Perhaps working own belief motivate a effort, consequences and life skills, decision making relevant for them.

Component: Fall 1993 Pretest-posttest experimental Health-educator-led (Sussman et al., In press-b) needed with motivate consequences and skills, decision making.

(continued on next page)

<table>
<thead>
<tr>
<th>Name of Study Interpretation</th>
<th>Completed Method</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot Tests (unpublished data) nine-lesson</td>
<td>Spring 1993 Pretest-posttest single-group design that involved an iterative process across two schools</td>
<td>The curriculum was well received, with a stable student sample size across lessons, at (n=290)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Study Interpretation</th>
<th>Completed Method</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot Tests (unpublished data) nine-lesson</td>
<td>Spring 1993 Pretest-posttest single-group design that involved an iterative process across two schools</td>
<td>The curriculum was well received, with a stable student sample size across lessons, at (n=290)</td>
</tr>
</tbody>
</table>

**Table 1 — Continued**
A 12-lesson curriculum that included three self-instruction lessons was well received in pilot testing, and lessons were disliked. Also, lessons were delivered at the first school. A nine-lesson curriculum, with all health-educator-led lessons, was delivered at the second school. By school staff. Across both schools, a 10% to 30% increase in knowledge was found; 45% of the students reported that this was a totally novel curriculum for them. At posttest, only, 11% would make no commitment about drug use, whereas 15% reported that they would stop using soon or immediately, and 30% would help others to not use.

**Reasons for Drug Use and Motivational Variables**

Investigation of reasons for drug use and possible motivations to not use drugs among continuation high-school youths involved interviews of 144 youths and 96 staff randomly selected from 20 continuation high schools in southern California (Sussman et al. 1995c). Support was obtained among both students and staff for four classes of reasons that continuation high-school students might use drugs: (1) normative social influence (“peer pressure” and “to be liked by your friends”); (2) informational social influence (“curiosity” and “seeing others using drugs”); (3) physiological reinforcement (“to have fun,” “boredom avoidance,” and “to experience the feeling of using drugs”); and (4) stress-coping (“family dysfunction,” “low self-esteem,” “to relax,” “to cope with stress,” “to reduce depression,” and “to escape”). Perhaps normative and informational social influences, physiological reinforcement, and stress-coping mechanisms all operate among continuation high-school students to lead to drug use experimentation.

This interview study further examined how these youths felt about others, such as peers at regular high schools, and how they perceived continuation high-school youths in general, as compared to how they perceived themselves. The interviewees responded uniformly that they viewed others as perceiving them as deviant (e.g., as losers, as drug abusers). They viewed continuation high-school youths and themselves as much less deviant than they assumed others had judged them. Possibly, reactions against this stereotype may energize an effort to not use drugs (a motivational-energy variable).

Also, these youths were asked what they desired to accomplish in their lives over the next few years. Interviewees generally responded that they wanted to graduate from school, and work or continue their education right after graduation. They did not view “hanging out” as a desirable option. Also, they believed that drug use could interfere with achieving their goals. Specification of future goals suggests a motivation that might provide a direction for change. To summarize, (a) these youths felt stereotyped, (b) they viewed themselves in a general sense as moderate, and (c) they wanted to accomplish various instrumental goals over the next few years. This information provided useful motivational material that was tested subsequently in lesson development work (e.g., Sussman et al., In press-b).

**Counteracting Normative Social Influence**

To counteract normative social influence, one must provide the student with skills to reduce perceived or real social pressure to achieve peer acceptance by using drugs. There are at least three strategies to counteract this type of social influence. First, perceptions of peer acceptance might be modified if these youths were instructed that people may achieve group respect by *not* using drugs or that they may
overestimate the degree to which acceptance will be achieved through drug use (cognitive restructuring). Second, students may be confronted directly with normative disapproval of drug use by taking class polls (normative restructuring). Finally, students may be taught refusal assertion skills to counteract direct social pressure to use drugs to achieve acceptance.

Curriculum Development Studies. Students did not offer information on modification of perceptions of peer approval in the interview study. A cognitive restructuring activity was tested in the theme study. It was rated well below the standardized mean of perceived quality, measured across 35 activity paragraphs. Apparently, the manipulation of perceived peer approval would not be well-received by students, and this possibility was no longer tested.

Confrontation with peer disapproval (normative restructuring) was tested in the comparison evaluation, theme, component, and pilot studies (see Table 1). A traditional social influence lesson, normative restructuring, which involves the taking of class polls, did not provide a change in knowledge or beliefs among continuation high-school students in the comparison evaluation study, although a health-educator-led version of this activity showed a trend toward belief change in an antidrug use direction. This type of lesson was rated favorably in the theme study. Normative restructuring through use of videotaped interviews of former continuation high-school youths was not evaluated favorably in the component study, although a brief version of the video was rated at the mean of lessons examined in the pilot study. Apparently, a normative restructuring lesson, such as that provided through videotaped interviews, can be implemented in at least an acceptable way among continuation high-school youths. A normative restructuring-type video was placed into the last lesson in the final curriculum.

In the interview study, refusal assertion skills to counteract normative social influence were not viewed as necessary. No students reported a belief that lack of skills to refuse drugs was related to drug use, and only 1% thought lack of confidence to refuse assertively was related to drug use. In the comparison evaluation study, refusal assertion practice was found to be the only lesson that showed change in beliefs favorable toward drug use. Refusal assertion training was dropped from further curriculum development work.

Counteracting Informational Social Influence

Informational social influence herein refers to influence exerted on one to express opinions and attitudes consistent with drug use. This type of influence includes vicarious learning of social images of use (e.g., drug use makes one more exciting), prevalence overestimates of use (e.g., “everybody does it”), and clarification of one’s attitudinal perspective (in which individuals reconcile “the kind of person they are” with their own behavior). Possibly, if youths are taught an awareness of relatively covert social influence processes that create drug use-promoting social images (e.g., glamorization of drug use in the media), they may be inoculated against such informational social influence. This information often is contained in a generic social influences awareness lesson. In addition, a traditional prevalence overestimate reduction activity involves taking a class poll. This poll provides the data for a comparison of the number of users in the classroom (self-reported anonymous data; the objective criterion) with (inflated) estimates students have of their classroom peers’ use. Youths then bring their estimates into line with levels of actual use. Finally, most youths will tend to think of themselves as moderate people. Also, they can agree on what are behavioral extremes. To continue to perceive themselves as moderate, many youths would need to quit drug use. Simply confronting their general self-attitude with their behavior may produce a desired behavior change (see Sussman 1989; Upshaw & Ostrom 1984).

Curriculum Development Studies. A generic social influences awareness lesson was found to change knowledge but not beliefs among continuation high-school students in the comparison evaluation study. This lesson, when focused on counteraction of media influences, was rated quite poorly in the theme study. No further development of a social influences awareness lesson was entertained.

As indicated in the interview and comparison evaluation studies, among continuation high-school students, prevalence estimates of recent use are twice as high as actual use regarding cigarettes and marijuana, and are five to ten times as high as actual use regarding other drugs. Students at continuation high schools may assume that trying equals recent use. This conceptual process apparently is the hallmark prevalence overestimation error (Sussman et al. 1988). In the comparison evaluation study, a generic social influences-oriented prevalence overestimate correction lesson exerted a knowledge change, but not a belief change. A description of this same lesson was not well-received in the theme study.
On the other hand, a stereotype lesson was well-received in the theme, component, and pilot studies. This lesson utilized motivational-type information originally assessed in the interview. Lower-risk peers tend to perceive continuation high-school students as more deviant than they actually are. Continuation school students do not like being stereotyped in this way. This lesson extended on the interview information by discussing prevalence overestimates as reflecting a self-fulfilling prophecy among continuation high-school students (a “giving in” to the stereotype) that can be corrected by lowering their own estimates of use among their peers. This version of a prevalence overestimation reduction lesson, which included a motivational feature, was included in the final curriculum.

An attitudinal perspective lesson focused on confronting students with an inconsistency between their general self-attitude ratings as “moderates” versus their more extreme specific behaviors (e.g., drug use). This lesson was quite well-received in the theme, component, and pilot studies. Possibly, then, informational social influence to experiment with drugs could be attenuated by providing a means for the students’ own belief systems to become more internally consistent. A desire for internal consistency perhaps reflects an energizing motivational feature of this lesson. This lesson was included in the final curriculum.

Counteracting Physiological Reinforcement

Boredom avoidance and sensation seeking were frequently stated reasons in the interview study that youths use drugs. Possibly, a negative consequences lesson (or lessons) that presents the gradual accumulation of different types of consequences with continued use (see Newcomb & Bentler 1988 regarding beginnings of psychological dependence and addiction, truncated development in terms of work and marriage, impact on others including the family) may be effective in counteracting use for physiological reinforcement reasons.

Also, misperceptions regarding physical consequences of drug use operate (Sussman, Dent & Stacy, In press); for example, one may believe that when he or she is able to regulate subjective effects of a drug one has gained control over its use. The reality is that one’s warning system may be breaking down and the beginnings of addiction are occurring (Glynn, Leventhal & Hirschman 1985; Sussman et al., In press-b, 1995a). A lesson that confronts such drug use myths directly may provide an awareness that could counteract tendencies toward simply reacting to perceived physiologically reinforcing aspects of a drug.

Curriculum Development Studies. The lesson that comes closest to counteracting physiological reinforcement in the generic social influences curriculum is the one that provides instruction in short- and long-term physical consequences of use. This lesson did provide a change in knowledge but not beliefs among continuation high-school students in the comparison evaluation study, although a health-educator-led version of this activity showed a trend toward belief change in an antidrug use direction.

In the theme, component, and pilot studies, lessons that taught recovery movement ideas (e.g., a talk show lesson dealing with themes of enabling and negative effects on family relations, and a drug use myths correction lesson that taught types of denial) were among the best received lessons. Apparently, instruction that helped differentiate drug use from drug abuse, and corrected misperceptions, was considered quite important to these youths. Three lessons were retained for the final curriculum from this material; one that taught the gradual development of chemical dependency, one that corrected drug use myths, and one that had youths enact a talk show to reveal the effects of drug abuse on others.

Counteracting Inadequate Coping Skills

Finally, inadequate coping was a major self-reported etiological reason for drug use reported in the interview study. Continuation high-school youths may experience more stressful situations requiring active coping than lower-risk peers. In addition, they may be relatively likely to lack adequate coping skills and tend to react more than others with a lack of self-restraint (Farrell & Danish 1993; Shedler & Block 1990). Coping skills generally are not taught in typical generic social influences programming (Hansen 1992), although this material has been a feature of life skills training (Botvin et al. 1995; Botvin 1993; Wills 1986).

Curriculum Development Studies. The two generic social influences lessons that provide information most closely related to coping strategies are the effective listening and decision making/commitment
lessons, the first and last lessons in the curriculum. In the comparison evaluation study, both of these lessons were found to change knowledge but not beliefs among continuation high-school youths, and the health-educator-led versions of these lessons showed a trend toward belief change. These two lessons received favorable ratings in the theme, component, and pilot studies. They were retained in the final curriculum.

Other coping-related lessons that were tested in the TND curriculum development studies include instruction in effective communication, self-esteem enhancement, self-control in communication, and coping with stress. These lessons were tested in the theme and component studies. Effective communication was rated below the standardized perceived quality mean in the theme study, whereas the other three lessons were rated at or above the mean. Effective communication was rated much more highly when it was assessed on immediate impact in the component study. Coping with stress and self-esteem enhancement were not rated favorably in the component study, although self-control was rated quite favorably.

The pilot study retained self-control, aspects of effective communication (which were combined with effective listening in the introductory lesson), and coping with stress lessons. Self-esteem enhancement was added as an aspect of the coping with stress lesson (particularly the use of self-affirmations, placed in a self-help guide). In addition, a motivational feature was added to the coping with stress lesson. One may expend more energy to learn prosocial coping skills if one places a value on health (see Lau, Hartman & Ware 1986). In the interview, youths had reported that drug use could interfere with obtaining desired life goals. In the theme and component studies, youths rated highly a lesson that taught that drug use could interfere with obtaining desired goals, and that placing an importance on health as a value was consistent with achievement of life goals. In the pilot study, health as a value material was added to the coping with stress lesson to motivate students to read a booklet that provides appropriate means to cope with stress. In the pilot study, self-control, coping with stress/health as a value, and listening/communication skills lessons were rated as moderately helpful. They were retained for use in the final curriculum.

**FINAL CURRICULUM CONTENT AND CONCLUSIONS**

This paper briefly summarized a variety of curriculum development studies that resulted in selection of nine lessons. These lessons intend to provide a preventive impact on drug use behavior among high-risk youths. Previous research indicates that generic comprehensive social influences lessons are less likely to be effective for use with the present high-risk population (Dent et al., In press; Sussman et al. 1995b, 1995c; Newcomb & Bentler 1989; Tobler 1986). For example, while continuation high-school students acknowledge the operation of social influence in facilitating their drug use behavior (Sussman et al. 1995c), they tend to endorse instruction in alternatives to drug use and drug counseling (Sussman et al. 1995c; Swisher & Hu 1983), lessons with chemical dependency recovery themes, lessons that impart physical consequences information, or lessons that impart life skills (Dent et al., In press; Donaldson, Graham & Hansen 1994; MacKinnon et al. 1991) as means of prevention. In addition, they react negatively to refusal assertion training and practice, which until recently has been considered the prototypical social influence strategy (Dent et al., In press; Sussman et al. 1995b, 1995c; Donaldson, Graham & Hansen 1994; MacKinnon et al. 1991). Several generic social influences lessons have been constructed previously based on the assumption that there exists a motivation to not use drugs among the target population (Donaldson 1995). That curriculum does not provide much motivation material. Thus, lesson material was developed that can motivate students against drug use and justify to students why it is in their interest to learn new skills, namely the perspectives, stereotyping, and health-as-a-value material.

The final curriculum for implementation in the main prevention trial is shown in the Appendix. The first lesson attempts to elicit cooperation, and instructs youths in communication and listening skills to assist in learning of subsequent information. The second lesson attempts to motivate students to listen further by providing stereotype information (e.g., that others believe all continuation high-school students are drug abusers) and facilitating their own rebellion against such stereotyping. Finally, the third lesson provides information regarding myths continuation high-school students, themselves, hold about drug use.

The second week shifts into instruction in chemical dependency (fourth lesson), perspective-taking regarding those affected by one’s drug use (talk show; fifth lesson), and learning how to change behaviors
to fulfill one’s life goals (health as a value and stress-coping; sixth lesson). Students are taught that consequences of drug use tend to accumulate over time, that they value their own physical health to achieve life goals, and that they can learn healthful means of coping.

Finally, the third-week material presents information on increasing one’s self-control to better acquire environmental resources (seventh lesson). In addition, the third-week material helps one to see that, since one desires to be moderate in behavior, drug use does not fit in one’s plans (eighth lesson). Finally, the last lesson encourages a decision and a commitment regarding drug use. In summary, the first week stimulates learning, the second week teaches consequences of chemical dependency and coping alternatives, and the third week encourages additional skills development and motivation in the direction of becoming more moderate in behavior and attitudes.

A model of drug abuse prevention is implicit in the curriculum, which might be referred to as a motivation-skills-decision (MSD) model. Students’ motivations are harnessed against drug abuse, students are provided with skills to change, and they make a decision. This model integrates ideas by Leventhal and Keeshan (1993) on motivation with Eggert and colleagues’ ideas (1994) on skills training and decision making. A motivation-skills-decision model may help optimize effects of preventing substance abuse among high-risk youths. Students’ motivations are harnessed against drug abuse. They learn (a) that they do not have to yield to stereotypes of others and use drugs, (b) to place partly formed specific self-attitude ratings within a more general self-rating as a moderate, and (c) to value their health as a means to achieving life goals.

Students also are provided with skills to change, including effective listening skills, effective communication skills, and self-control skills. Finally, they learn to make a decision about their behavior by being provided with information (a) regarding myths people hold about drug use, (b) the insidious nature of life consequences of drug abuse, (c) the effects of drug abuse on others, and (d) means to utilize all previous information by use of a decision-making process. This model was derived largely through curriculum development testing.

The curriculum has been implemented during the 1994–1995 school year and behavioral outcomes data will be available in the next few years. The present paper served the function of justifying development of a classroom-based curriculum for continuation high-school youths, showing the limitations of the immediate impact of generic social influences programming with this population, and demonstrating the utility of an empirical curriculum development process for tailoring programming for a high-risk group. The feasibility of this process may be of interest to clinicians and researchers within and outside of the classroom setting (e.g., in clinics). The same types of procedures—assessment of antecedent and motivational variables, perceived efficacy testing, and immediate outcomes testing—could be accomplished at a variety of settings at reasonable cost. Even if few studies could be considered due to time or cost factors, curriculum development methods that are used probably should rely on the assumption that the consumer is best able to select drug abuse prevention material for his or her reference group. Inclusion of consumer preferences into curriculum material may canalize recipients of the program to learn new skills instead of using drugs.

**APPENDIX**

**Project Towards No Drug Abuse:**
**Curriculum Summary and Research Sources**

**Lesson One—Introduction, Communication and Active Listening:** The purpose of the first lesson material is to motivate students to communicate effectively and listen to program material with an open mind. The key elements taught are the ideas of keeping an open mind, introduction to program material, and effective communication skills (listening and speaking).

Research derivation: Behavior therapy literature (e.g., Botvin & Eng 1979; Rathus & Nevid 1977; Wolpe 1973).

**Lesson Two—Stereotyping:** The purpose of the second lesson is to make continuation high-school students aware that they may make themselves more “at risk” for substance abuse by giving in to a self-fulfilling prophesy, and that they can rebel against stereotyping by not abusing drugs. The key elements...
taught are the definition of stereotyping, how stereotyping might apply to continuation high-school students, the definition of self-fulfilling prophesy, provision of correct continuation high-school student drug use prevalence data, and how continuation high-school students may overestimate use, thus indicating possible yielding to a self-fulfilling prophesy.

Research derivation: Social psychology literature (e.g., Fishkin et al. 1993; Sussman et al. 1988).

Lesson Three—Myths and Denial: The purpose of the third lesson is to confront myths that facilitate drug use, so that positive functions of drug use may be minimized. The key elements taught are the definitions and examples of myths (drug use as emotional protection, drug use to establish friendships, getting “used” to a drug, and drug use shows independence) and denial (blaming others for their drug use, denial of injury, denial of effects on others, and reinterpretation of negative consequences as appearing positive).

Research derivation: Sociology and recovery literature, such as Neutralization Theory (e.g., Agnew & Peters 1983; Dodder & Hughes 1993; Shields & Whitehall 1994; Sykes & Matza 1957); Mystification Theory (Lennard et al. 1971); Perceived Effects Theory (Smith 1980); and addiction myths (Sussman, Dent & Stacy, In press; Glynn, Leventhal & Hirschman 1985).

Lesson Four—Chemical Dependency: The purpose of the fourth lesson is to provide information about the course of negative consequences of drug abuse, the family/social context of drug abuse, and the availability of assistance for those affected by drug abuse. The key elements taught are the definitions or descriptions of chemical dependency, tolerance, withdrawal, the stages of damage (T.R.A.P. or Trial, Recreational use, Abuse, Pinned down [addicted]), family roles in drug abuse-associated families (roles include the enabler or codependent, lost child, hero, scapegoat, mascot, drug abuser), the concepts of enabling and recovery, and where one can go for help.

Research derivation: Behavior therapy and recovery literature (e.g., Winters, Stinchfield & Henly 1993; Newcomb & Bentler 1988; Kinney & Leaton 1982).

Lesson Five—Talk Show: The purpose of the fifth lesson is to provide an empathetic and cognitive understanding of negative consequences of drug abuse, permit active review of earlier acquired information, and teach social perspective-taking pertaining to drug abuse. Students learn that abuse occurs when one uses drugs to cope and when negative consequences result from use. Also, students are discouraged from enabling drug abusers.

Research derivation: Recovery literature (e.g., Kinney & Leaton 1982).

Lesson Six—Stress, Health, and Goals: The purpose of the sixth lesson is to provide coping alternatives to drug abuse that can be used proactively or reactively to deal with stress. The lesson also emphasizes the importance of health as a value for a happy life in the long run. The key elements taught are the definitions or descriptions of stress, coping with stress (S.L.O.P.—self-esteem, lifestyle alternatives, social support seeking, and problem solving), why drug use is an ineffective means to cope with stress, and quality of life (i.e., importance of health as a value).

Research derivation: Behavior therapy, social psychology, and recovery literature (e.g., Wills & Hirky, In press; Sussman et al. 1993b; Dorsman 1991; Lau, Hartman & Ware 1986; Wills 1986; Shiffman & Wills 1985).

Lesson Seven—Self-control: The purpose of the seventh lesson is to help one to match social skills to different social contexts, and to act in ways that do not alienate others; hence, making it easier to create social bonds and achieve life goals. The key elements are definitions or descriptions of self-control and when self-control is needed; identification of the need for training in self-control through self-report list completion; instruction in triggers, passive, aggressive, and assertive behavior (the latter concept involves other-statement, self-statement, and action statement components); and how drug use may decrease self-control.

Lesson Eight—Perspectives: The purpose of the eighth lesson is to examine attitudes toward drug use and, because most people are moderates (in general), elicit more antidrug abuse statements. The key elements are definitions of radical, moderate, traditional, and exposure to others’ views indicating an antidrug abuse stance.

Research derivation: Social psychology literature (e.g., Upshaw & Ostrom 1984).

Lesson Nine—Decision Making and Commitment: The purpose of the ninth lesson is to motivate students to think through the pros and cons of drug use, show decisions that previous continuation high-school students have made regarding drug use (through use of a normative restructuring video), and make a commitment regarding dealing with drug abuse as a problem. The key elements are definitions or descriptions of decision making (brainstorming, weigh the pros and cons, select the best option, and follow through), the flexibility inherent in reevaluation, commitment-making, and practice of these steps.

Research derivation: Behavior therapy and recovery literature (e.g., Dorsman 1991; Rathus & Nevid 1977).

REFERENCES


